

## CLAIMS

What is claimed is:-

1. A compound compressor of simple and lightweight construction with a high pressure ratio comprising:-

a centrifugal compressor with a plurality of radial vanes on the front face;  
 some said radial vanes are short radial vanes and finish at the centrifuge rim;  
 some said radial vanes are long radial vanes and overhang the centrifuge rim;  
 said long radial vanes are one quarter to one third in number of said short radial vanes;  
 a conical screw body;  
 said body mates up to said rim and extends behind said rim further aft;  
 said body tapers towards the rear;  
 said body has a plurality of helical vanes;  
 said vanes are the same in number as said long radial vanes;  
 said helical vanes mate up with said long radial vanes at the centrifuge rim;  
 said helical vanes each complete one full turn;  
 a driven shaft;  
 said centrifuge and said screw body are complete and separate parts;  
 said parts form whole compressor;  
 said compressor fits on to said shaft;  
 a compressor casing surrounding said parts;  
 said casing encloses air within.

2. A compound compressor as claimed in claim 1 manufactured as a turboshaft compressor.

3. A compound compressor as claimed in claim 1 manufactured as a turboprop compressor.

4. A compound compressor as claimed in claim 1 manufactured as a turbofan compressor.